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FOLEY AND LARDNER
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

SPEARS, ERIC J

ART UNIT PAPER NUMBER

2878

DATE MAILED: 11/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/066,582

Applicant(s)

HOFFMAN, JUERGEN

Examiner

Eric J Spears

Art Unit

2878

AW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 8 and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not describe the manner in which the retardation plate is used to shape the stimulated light beam. It should be noted that it is known that half waves plates change the polarization of light passing through but do not block or refract light, as would be required for beam shaping. Further, the specification teaches other elements which shape the stimulating light beam other than the retardation plate, such as the lenses 29 and 33. Therefore, the specification does not support the recitation of the "means for influencing the shape of the focus of the stimulating light beam consists essentially of..".

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the beam path" in line 9. There is insufficient antecedent basis for this limitation in the claim.

Regarding Claim 3, the phrase "alignment of the module with respect to the scanning microscope" renders the claim indefinite as the module is recited as being part of the scanning microscope.

Regarding Claim 4, the phrase "position of the module with respect to the scanning microscope" renders the claim indefinite as the module is recited as being part of the scanning microscope.

Further regarding Claim 4, it is unclear what is meant by a "banking element". For examination purposes, the limitation will be interpreted as meaning "positioning element". It should be noted that the specification does not define the term "banking element".

Regarding Claim 5, the phrase "connecting the module to the scanning microscope" renders the claim indefinite as the module is recited as being part of the scanning microscope.

Further regarding Claim 5, it is unclear what is meant by a bayonet attachment. For examination purposes, the limitation will be interpreted as meaning "detachably connected". It should be noted that the specification does not define the term "bayonet attachment".

Claim 6 is indefinite as the light source and the module are recited as being separate elements and therefore the module cannot also comprise part of the light source.

Claim 11 recites the limitation "the beam path" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "the scanning microscope" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: any relationship between the combination of the module, the beam path, the scanning microscope and the combination of the multiple optical elements and the stimulating light beam.

Regarding Claim 11, the claim is vague and indefinite as the claim recites the invention as a whole being "a module", but also recites elements outside "the module". The scope of the claim is therefore extremely unclear.

The term "essentially" in claim Claim 19, line 2 is a relative term which renders the claim indefinite. The term "essentially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It should be noted that the use of the phrase "consists essentially of" seems to imply that the retardation plate is the only element in the device which shapes the stimulating light

beam. The claim will therefore be examined as reading "comprising" in place of the vague phrase.

Claims not specifically mentioned are indefinite due to their dependency from an indefinite base claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 6, 7, 9, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Baer (5,866,911).

Regarding Claim 1, Baer teaches a scanning microscope comprising: a light source 10 and 11 that emits an exciting light beam (from 10) which is suitable for exciting an energy state in the specimen and that emits a stimulating light beam (from 11) for generating stimulated emission in the specimen, whereby the exciting light beam and the stimulating light beam overlap in a focal region at least partially, at least one detector (67 in Fig. 6 or 23 in Fig. 7) for detection of the emitted light proceeding from the specimen and a module (21, 22) that is positionable in the beam path of the scanning microscope and that comprises multiple optical elements which shape the stimulating light beam (Col. 4, lines 58-68).

Regarding Claim 6, Baer teaches the module (11, 21, 22) composes at least a portion of the light source 11.

Regarding Claim 7, Baer teaches the module comprises optics 22 focusing the stimulating light beam.

Regarding Claim 9, Baer teaches the module comprises means 22 for influencing the shape of the focus of the stimulating light beam in the focal plane.

Regarding Claim 10, Baer teaches the means for influencing the shape of the focus of the stimulating light beam generate an internally hollow focus (See Fig. 1b).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-5, 11, 13-18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baer (5,866,911).

Regarding Claims 3 and 4, Baer does not teach an alignment device. However, it is well known in the art to align optical elements in a device to make the device perform properly. It would have been obvious to one of ordinary skill in the art to provide an alignment device, as aligning optical elements is well known in the art, in order to ensure proper functioning of the microscope.

Regarding Claim 5, Baer does not teach an attachment device. However, it is well known in the art to align optical elements in a device to make the device perform properly. It would have been obvious to one of ordinary skill in the art to attach the module to the microscope, to insure proper alignment of the module with respect to other elements of the device, in order to ensure proper functioning of the device.

Regarding Claims 11 and 14, Baer teaches a scanning microscope comprising: a laser 10 and 11 that emits an exciting light beam (from 10) which is suitable for exciting an energy state in the specimen and that emits a stimulating light beam (from 11) for generating stimulated emission in the specimen, whereby the exciting light beam and the stimulating light beam overlap in a focal region at least partially, at least one detector (67 in Fig. 6 or 23 in Fig. 7) for detection of the emitted light proceeding from the specimen and a module (21, 22) that is positionable in the beam path of the scanning microscope and that comprises multiple optical elements which shape the stimulating light beam (Col. 4, lines 58-68). Baer does not teach an alignment device. However, it is well known in the art to align optical elements in a device to make the device perform properly. It would have been obvious to one of ordinary skill in the art to provide an alignment device, as aligning optical elements is well known in the art, in order to ensure proper functioning of the microscope.

Regarding Claim 13, Baer does not teach an attachment device. However, it is well known in the art to align optical elements in a device to make the device perform properly. It would have been obvious to one of ordinary skill in the art to attach the

module to the microscope, to insure proper alignment of the module with respect to other elements of the device, in order to ensure proper functioning of the device.

Regarding Claims 15 and 16, Baer teaches the module (11, 21, 22) composes at least a portion of the light source (a laser) 11.

Regarding Claim 17, Baer teaches the module comprises optics 22 focusing the stimulating light beam.

Regarding Claim 18, Baer teaches the module comprises means 22 for influencing the shape of the focus of the stimulating light beam in the focal plane.

Regarding Claim 20, Baer teaches the means for influencing the shape of the focus of the stimulating light beam generate an internally hollow focus (See Fig. 1b).

Claims 2 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baer (5,866,911) in view of Lin (5,252,834).

Regarding Claim 2, Baer does not teach a housing. However, Lin teaches a microscope with a housing 24. It would have been obvious to one of ordinary skill in the art to modify the device of Baer to include a housing, as housings are well known in the art as shown by Lin, in order to hold or position the device elements in the device of Baer.

Regarding Claim 12, Baer does not teach a housing. However, Lin teaches a microscope with a housing 24. It would have been obvious to one of ordinary skill in the art to modify the device of Baer to include a housing, as housings are well known in the

art as shown by Lin, in order to hold or position the device elements in the device of Baer.

Claims 8 and 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baer (5,866,911) in view of Hell et al. (5,731,588).


Regarding Claims 8 and 19, Baer does not teach a retardation plate. However, Hell teaches a polarizer 20 in a scanning microscope. It is well known in the art to use retardation plates (half wave and quarter wave plates) as polarizers. It would have been obvious to modify the device of Baer to include a retardation plate, as the use of polarizers is well known in the art as shown by Hell, in order to filter out unwanted light.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Spears whose telephone number is (703) 306-0033. The examiner can normally be reached on Monday-Friday from 10:00am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on (703) 308-4852. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Que T. Le
Primary Examiner

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Art Unit: 2878

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